

CLAIMS AS FILED - OZ 52141

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1. A process for producing dry powders of one or more carotenoids by
 - a) dispersing one or more carotenoids in an aqueous molecular or colloidal solution of a mixture of lactose and a protective colloid and
 - b) converting the dispersion which has formed into a dry powder by removing the water and, where appropriate, additionally used solvents and drying, where appropriate in the presence of a coating material,wherein at least one soybean protein is used as protective colloid in process step a).
 2. A process as claimed in claim 1, wherein the dispersion step a) comprises the preparation of a suspension of one or more carotenoids in an aqueous molecular or colloidal solution of a mixture of lactose and at least one soybean protein.
 3. A process as claimed in claim 2, wherein the suspension prepared in process step a) is ground before conversion into a dry powder.
 4. A process as claimed in claim 1, wherein the dispersion in stage a) comprises the following steps:
 - a₁) dissolving one or more carotenoids in a water-miscible organic solvent or in a mixture of water and a water-miscible organic solvent or
 - a₂) dissolving one or more carotenoids in a water-immiscible organic solvent and
 - a₃) mixing the solution obtained as in a₁) or a₂) with an aqueous molecular or colloidal solution of a mixture of lactose and at least one soybean protein,

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resulting in the hydrophobic phase of the carotenoid as nanodisperse phase.

5. A process as claimed in claim 1, wherein at least one partially degraded soybean protein with a degree of hydrolysis of from 0.1 to 20% is used as protective colloid.
6. A process as claimed in claim 1, wherein the carotenoids used are oxygen-containing carotenoids.
7. A process as claimed in claim 6, wherein the oxygen-containing carotenoids are compounds selected from the group consisting of astaxanthin, canthaxanthin, lutein, zeaxanthin, citranaxanthin and ethyl β -apo-8'-carotenoate.
8. A process as claimed in claim 7, wherein
 - a) astaxanthin and/or canthaxanthin is dissolved in a water-miscible organic solvent or a mixture of water and a water-miscible organic solvent at temperatures above 30°C,
 - b) the resulting solution is mixed with an aqueous molecular or colloidal solution of a mixture of lactose and a partially degraded soybean protein with a degree of hydrolysis of from 0.1 to 20%, and
 - c) the dispersion which has formed is converted into a dry powder.
9. A process as claimed in claim 8, wherein astaxanthin is used as carotenoid.
10. A carotenoid-containing dry powder obtainable by a process as defined in claim 1.
11. A dry powder as claimed in claim 10 with a carotenoid content of from 0.1 to 30% by weight.

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12. A dry powder as claimed in claim 10, comprising oxygen-containing carotenoids selected from the group consisting of astaxanthin, canthaxanthin, lutein, zeaxanthin, citranaxanthin and ethyl β -apo-8'-carotenoate.
13. A dry powder as claimed in claim 12, comprising 5 to 20% by weight of astaxanthin.
14. A dry powder as claimed in claim 12, comprising 5 to 20% by weight of canthaxanthin.
15. The use of the carotenoid-containing dry powders as defined in claim 10 as addition to human foods, pharmaceuticals and/or animal feeds.

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